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ABSTRACT

Faculty development growing out of a Piagetian curriculum (ADAPT) for the collegiate freshman year at the University of Nebraska is discussed in this paper. ADAPT faculty workshops focusing on the Piagetian theory and applications of the theory in teaching are described. The workshop is evaluated by means of a participant self-report and post-workshop behavior. The effectiveness of a year-long faculty development course is also assessed. The workshops were evaluated highly (89-97 percent positive response). Of those indicating whether they would attend a follow-up workshop, almost half said yes. Results were mixed for the year-long faculty development course. Interviews revealed that ADAPT faculty participants emphasized using theory whereas a comparison group focused primarily on technical and informational matters. The study also indicated that ADAPT participants described approaches compatible with a Piagetian framework more often than the comparison group. (Author/SF)

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Faculty Development in ADAPT

(a Piagetian Curriculum for the Freshman Year)

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ADAPT, a program for freshmen based on the ideas of Jean Piaget (1972), was described in a session presented at this conference last year (Williams, 1978; Tomlinson-Keasey, 1978). Now that the program has been in existence for 3½ years it seems appropriate to ask what impact the program is having on its faculty, on their colleagues at Nebraska, and on other campuses.

Since we know from unimpeachable authority that a prophet is not without honor save in his own country (Mark, 50), any message showing promise of reaching an audience on its own campus deserves careful attention. For this reason this account will reserve till last a description of local efforts. The ADAPT staff has conducted a workshop on the local campus and on a number of other campuses for each of the last four years. This workshop focuses on the distinction between concrete and formal operational thinking. The session begins with audiovisual presentations of students thinking in two modes and proceeds to an analysis of instructional materials in terms of their orientation to the two types of thinking. Participants engage in disequilibrating activities and develop ideas for teaching concrete operational students.

Objectives for these workshops as laid out by the ADAPT staff are:

1. To introduce concepts from Piagetian theory (e.g. concrete and formal thought, self-regulation) to the workshop participants.
2. To provide opportunities for discussion of the concepts as well as the application of Piagetian theory.

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3. To encourage application of the theory by providing exercises in four areas:
   a) recognition of concrete and formal thought in class problems, assignments, or exam questions.
   b) recognition of concrete and formal thought requirements in instructional materials.
   c) recognition of concrete and formal thought requirements in each instructor's field.
   d) recognition of teaching strategies that favor the concrete and/or formal learner.
4. These objectives are addressed towards the general goal of improving faculty approaches to the common problems of college teaching (teaching from a learner's point of view).

As formulated by the ADAPT staff, the workshop consists of two Learning Cycles. The first, including Modules 1-7 of the workshop, concentrates on the concepts of concrete and formal thought, while the second (Modules 8-10) deals with Piaget's concept of self-regulation. The objectives of the individual modules are as follows:

1. To assist you in distinguishing among various patterns of thought used to solve simple problems.
2. To enable you to identify and describe student behaviors indicative of the use of concrete and formal thought.
3. To assist you in describing and/or identifying responses that indicate concrete or formal thought as applied to simple Piagetian tasks.
4. To assist you in describing and/or identifying responses that indicate concrete or formal thought as applied to Piagetian tasks.

5. To present recent research data on the responses of college students to Piagetian tasks.
6. After you complete this module you will be able to classify test questions as "concrete" or "formal". After completing this module you will be able to write questions that are "concrete" or "formal" as needed.
7. To assist you in classifying text passages with regard to their requirements for concrete and formal reasoning.
8. To assist you in describing self-regulation.
9. To enable you to describe the "learning cycle" approach to teaching. To assist you in designing classroom activities that encourage self-regulation.
10. To assist you in selecting and utilizing teaching strategies that will encourage self-regulation on the part of your students. To assist you in balancing course goals aimed at content with those aimed at improved reasoning.

We have relatively systematic follow-up information on six workshops conducted over the last three years. A doctoral student asked the same questions of participants in four workshops conducted during 1976-77. Responses to these questions are presented in tables one and two. The pre-workshop evaluation questions reveal that prior to all four sessions participants, who were relatively experienced teachers, were overwhelmingly either somewhat familiar or not familiar with Piaget's concepts of concrete and formal thought (and were rather evenly divided between the two cateogories) and wanted to see how Piaget's ideas can be applied to college teaching.

(Place table one about here)

Items 18-23 yield an overall assessment of the workshop which is most favorable. Questions 18-21 are all skewed toward the positive end of the scale (valuable - 91%; organized - 95%; staff helpful - 97%; participants helpful - 89%). The self-paced, modular approach of the workshop most probably accounts for the high ratings on organization.

(Place table two about here)

In the other two instances, at Western Michigan (WMU) and DePauw Universities, the workshops were part of larger faculty development programs. At WMU the workshop was part of a course designed to result in one or more projects aimed at improving the individual's teaching. The organizer's final report included the following statements.

> Attending workshop meetings was the most successful activity of the inservice course. Completing projects was not successful. Several items hindered participants from completing projects. A majority of the participants complained of a lack of time to complete projects.... In summary, it is clear that the projects designed for the inservice workshops were in many ways inappropriate and contributed to the low percentage of participants who completed them.... (On the other hand) twenty-three non-scheduled projects were reported back to the workshop coordinators. Half of the non-scheduled projects involved participants using items from the Orientation Workshop as part of their teaching activities.... The non-scheduled projects represent an application of the in-service course to serve the particular needs of the participants. It also suggests that many of the participants attended the in-service course with expectations that did not match the organizers' expectations. Table 3 summarizes the completion of projects by the various participants.

(Place table 3 about here)

> The final evaluation questionnaire used in the evaluation of the course focused on the three major objectives of the course. Objective One was to "introduce participants to the levels of reasoning of their students." Ninety-five percent (95%) of the respondents indicated that they became more aware of the reasoning abilities of their students and one-hundred percent (100%) indicated they had an understanding of "concrete" and "formal" levels of reasoning.

Objective Two was to "introduce participants to Piagetian Learning Theory." Eight percent (80%) indicated they had gained an understanding of Piagetian Learning Theory, understood the "learning cycle" instructional format, and were aware of "assimilation" as a principle of learning. Seventy-five percent (75%) indicated an understanding of "self-regulation," sixty-five percent (65%) understood "transitional operations," and sixty percent (60%) understood "social transmission."

Objective Three was to "encourage participants to modify their teaching activities." Only sixty-five (65%) of the respondents (30% of all participants) stated they had changed their teaching activities because of their experiences in the service course. The most popular areas of change were "teaching style" by 50% of the respondents and "class projects" by 45%. A few respondents also indicated they changed the content of a course (25%), evaluation procedures (20%), course organization (30%), and class reading materials (10%).

The course has been reorganized on the basis of the first year's experience and is being offered using ADAPT staff presentations again this year.

The workshop conducted at DePauw this fall was the first in a series of sessions focusing on the approaches to cognitive development created by Piaget and Perry. The summary of the evaluation conducted by DePauw faculty development organizers is presented in table four.

(Place table four about here.)

At the six institutions reported on here several additional events of interest have occurred since the workshops were held. Metropolitan State is one of five institutions initiating programs similar to ADAPT. The College of Charleston is instituting a program under LOCI support from the National Science Foundation. As mentioned above, both Western Michigan and DePauw currently are engaged in continuing, systematic programs of faculty development.

Workshop participants report using in their individual classrooms ideas derived from the workshop on the local campus. The local faculty participated last spring in a weekly seminar version of the workshop.

In addition a book describing the ADAPT program has been prepared. Five hundred copies of the book and another 500 of its revision have been distributed to faculty across the country. A number of persons have consulted ADAPT faculty. A smaller number have visited to observe the program and a few have spent a semester or a year on the Nebraska campus.

The effort with most potential for faculty development is the involvement of new faculty in the program itself. The ADAPT staff obtained a grant from our teaching support committee to train and include new persons in the program. As each interested instructor is identified, (s)he spends a semester reading, observing, and discussing ideas with the ADAPT staff. (This time is contributed by the individual). The Teaching Council funds are used to support the teacher in consultation with various ADAPT staff members to prepare materials for the next year's course. The administration has just supported this effort with the expiration of the Teaching Council grant. Thus far two English instructors, an educational psychologist, and a political scientist have joined the program in this way. Hopefully this effort can be funded on a continuing basis as part of the faculty leave program.

But what of the effect on faculty of their participation in the program? Initial information is based on interviews with the original ADAPT staff.

Several ADAPT faculty have used the knowledge gained in the program in courses taught outside the program. While some positive results have been noted, the outcomes most readily commented upon consist of students' resistance to this new way of learning and the poverty of students' response to it. Further faculty interviews were conducted this year.

Interviews were conducted during December and January of this winter with nine of eleven persons who have taught in ADAPT and with eight of ten persons chosen at random from the University faculty. The balance between samples in professorial rank and in disciplinary area (science, social science, humanities) was almost equal. In no case did either sample have a more than one person per category advantage over the other.

Interviews focused on five questions, asking respondents: 1) to analyze current teaching, including positive and negative features and a central issue (if one exists); 2) to assess the pervasiveness of the approach described; 3) to describe the theoretical framework for the approach; 4) to outline past changes in approach; and 5) to project future changes.

Tables five through nine present results of the writer's categorized analysis of the interviewees' statements in response to questions one, four, and five.

(Place tables five through nine about here.)

The observer will note in table seven a slight preponderance of Control over ADAPT responses appears in categories describing changes needed in the instructor, disadvantages to students, and characteristics neither wholly student nor faculty. The ADAPT group far outdistance their colleagues in mentioning disadvantages to the instructor. Perhaps a bit of the martyr syndrome appears among these instructors, who see themselves apparently as little understood pioneers.

In comparisons not presented in tabular form half the control group saw coping with size or diversity of classes as the central issue in their teaching at present. Other issues mentioned by one person each include effective use of technology, integrating different teaching emphases, and

fostering critical thought. Two ADAPT staff each identified encouraging student exploration of an area and a theoretical view of teaching as the central issue. One person each designated classroom authority and student self-regard. Two noted no central issue. One of each group cited reaching students.

While three ADAPT staff and none of the controls said in essence that they had thought of but not implemented many applications of their essential approach, the overall differences in pervasiveness were not marked. Of course, as expected, eight ADAPT people and none of the others mentioned Piaget. Two ADAPT persons mentioned William Perry, as did one control participant. In addition control group members mentioned several concepts relevant to Piagetian theory: cognitive orientation, self-direction, "real" experiences, interrelated nature of knowledge. (ADAPT faculty mentioned several of these notions in their descriptions also.) In addition the control group mentioned several other ideas, including information processing, teacher control, passive-receptive attitudes, and "none".

In summary the comparison instructors talked most about technique, and informational content. They also touched on such matters that might be thought to be of most interest to ADAPT teachers as student self-development/ actualization, adaptation to student characteristics (including critical thought, but also student diversity and numbers), and instructor learning. The comparison group also saw a need to change apparently more frequently than did ADAPT.

ADAPT staff identified more frequently than controls the topics of attending to student characteristics, feedback, challenging and involving students in interaction and learning, benefits to students, instructor satisfaction, renewal and growth, peer support, learning structures, and an overriding emphasis on theory.

The evidence appears, the, to support the conclusion that ADAPT faculty look at their teaching through Piagetian lenses, not just nominally, but in a rich variety of ways. While some of the comparison group seem to hold views compatible with Piagetian theory, such views evidently are not widespread in that group nor do they appear to permeate the behavior of any individual member.

In short, ADAPT has afforded a variety of avenues for faculty development, both on the UNL campus and on campuses nationwide. While short-term consequences of these efforts can be delinated, long-term results will not be discernible for some time.

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Mark, 6:4. The Bible, 50.

Piaget, J. Intellectual Evolution from Adolescence to Adulthood. Human Development, 15, 1972.

Tomlinson-Keasey, C. A. ADAPT: A Piagetian Curriculum for the Freshman year. Paper presented at the Eighth Annual Conference on Piagetian Theory and the Helping Professions. Los Angeles, February 2, 1978.

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Table 1 Pre-Workshop Evaluation: Four ADAPT Workshops (N = 157)

How familiar are you with the Piaget principles of concrete and formal operational thought?

	A. Very familiar	B. Somewhat familiar	C. Not familiar	D. No response
N -	13	66	85	3
% -	8%	42%	54%	2%

Why did you choose to attend this workshop?

	A. Had attended a previous Piaget workshop.	B. Had heard about the Piaget workshops.	C. Had heard about Piaget.
N -	4	15	31
% -	3%	10%	20%

	D. Am curious to see how Piaget's ideas can be applied to college teaching.	E. Attendance is an expected part of professional assignment.	F. No response
N -	127	19	4
% -	81%	12%	2.5%

Table 1 (cont)

Your teaching experience.

A. <u>At this college</u>	
a. Metropolitan State (N = 42)	3.3 yrs. per person
b. Grossmont Comm. Coll. (N = 23)	8.1
c. Kearney State (N = 37)	9.0
d. College of Charleston	4.7
B. <u>Other college and/or university teaching</u>	
a. Metropolitan State	1.8 yrs. per person
b. Grossmont Comm. Coll.	1.5
c. Kearney State	3.8
d. College of Charleston	2.4
C. <u>Secondary school teaching</u>	
a. Metropolitan State	0.95 yrs. per person
b. Grossmont Comm. Coll.	2.6
c. Kearney State	5.6
d. College of Charleston	0.6
D. <u>Other teaching experience</u>	
a. Metropolitan State	1.3 yrs. per person
b. Grossmont Comm. Coll.	0.8
c. Kearney State	4.2
d. College of Charleston	0.9

Table 2. Workshop Evaluations of Four ADAPT Workshops (N = 125)

How valuable has your experience at this workshop been?

very valuable	1	2	3	4	5	useless	N/A
	52%	39%	6%	1%	1%		2%

How well organized was this workshop?

well organized	1	2	3	4	5	nonorganized	N/A
	77%	18%	3%	1.6%	-		0.8%

How helpful did you find the staff members?

very helpful	1	2	3	4	5	not helpful	N/A
	89%	8%	1.6%	.8%	-		0.8%

How helpful did you find your workshop participants?

very helpful	1	2	3	4	5	not helpful	N/A
	54%	35%	10%	-	-		1%

Table 2 cont.

Please circle the letter of the item below that best expresses how you feel about Piaget's theory of concrete and formal reasoning and self-regulation.

	A. I feel uncomfortable with the theory and will need more time and/or reading.	B. I feel comfortable with the theory but not with the application of the theory (e.g. Learning Cycle).	C. I feel comfortable with the theory and would like to apply it in my class.
N -	14	42	78
% -	11%	34%	62%

If you feel comfortable with the theory and would like to apply it in your classroom, indicate which of the following tasks you plan to attempt as a result of the workshop?

	A. To review my problems, assignments, or exam questions for evidence of concrete or formal reasoning.	B. To review my instructional materials for evidence of concrete or formal reasoning.
N -	52	51
% -	66%	65%

	C. To analyze concepts in my field with respect to the concrete or formal reasoning required to understand them.	D. To review my teaching strategies and perhaps include a Learning Cycle in my course.
N -	52	74
% -	66%	94%

Table 3

SUMMARY OF PROJECT COMPLETION BY RANK

Rank	Application Projects I	II	III	Non-Scheduled Projects	Total Projects	Projects/ Person	% of P ticipa
Professor	4	2	-	5	11	3.7	60%
Associate Prof.	12	7	4	14	37	2.6	75%
Assistant Prof.	7	3	1	3	14	2.0	55%
Instructors, Graduate Students, and Visitors	1	-	-	1	2	1.0	20%
TOTAL	24	12	5	22	64	2.5	57%

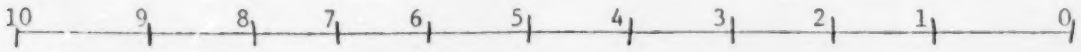
TABLE 4

Summary

ASSESSMENT OF THE WORKSHOP
ON COLLEGE TEACHING
AND THE DEVELOPMENT OF REASONING
13-14 OCTOBER 1978

Please give an overall rating of the workshop on the following scale:

(Highest) range: 5 - 9 5 mean: 7.94 (Lowest)



Would you like to attend a follow-up workshop in the spring?

11	YES
9	MAYBE
3	NO

Table 5. Description of Present Approach to Teaching

	ADAPT	Control		ADAPT	Control
Techniques	8	13	General analysis of method	0	6
Individual initiative and participation	6	4	Attention to student characteristics	7	4
Student interaction	3	0	Student questioning, critical thought	0	3
Theoretical framework	4	0			
Information dissemination/content	0	2			

Table 6. Positive Features of Teaching Approach

	ADAPT	Control		ADAPT	Control
Instructor, learning, investigation, curiosity, teaching-research related	1	3	Student self-development/ actualization	3	7
Instructor renewal, satisfaction, personal growth, increased interest	6	1	Theory	3	0
Student benefits: attitude, satisfaction, learning, products	7	3	Nature and uses of curriculum	5	0
			Peer support and interaction	5	0

Table 7. Negative Features of Teaching Approach

	ADAPT	Control		ADAPT	Control
Changes needed in instructor	2	3	Disadvantages to instructor	10	1
Changes needed in student	4	3	Disadvantages to student	4	5
Characteristics outside instructor's control	2	3	Method/theory limitations	2	1

Table 8. Changes in Teaching Approach

	ADAPT	Control		ADAPT	Control
"Not much"	0	2	Student interaction	2	2
"Enrichment" activities	0	4	Adapting to student characteristics & goals	2	8
Theory	6	0	Structure of learning	6	2
Student feedback	2	0			

Table 9. Future Projections of Teaching Approach

	ADAPT	Control		ADAPT	Control
Student characteristics	1	5	Challenge, involve students	2	0
Techniques	3	7	Relation of theory to practice	4	1
More teaching/ curricular changes	0	2	Polish, generalize approach	2	1
"Not much"	0	2			